FIRE II Cirrus
Mission Summary

Date: December 2, 1991
Julian Day: 336
Experiment Day: 20

Summary | Active Sensors | Passive Sensors | Sonde and Sfcmet

Mission Scientist: Steve Ackerman
Deputy Mission Scientist: Andy Heymsfield

Mission Objective:

> Remote sensing of cirrus cloud radiative and microphysical properties

Mission Description:

> A joint ER-2 and Sabreliner mission was planned over the Gulf of Mexico. The mission was cancelled since the Sabreliner was unable to ferry to area until late in day (poor weather in Tulsa) and only a few cirrus clouds were present in the target region anyway. This mission will be rescheduled for tomorrow in conjunction with early morning Landsat and NOAA overpasses. All operations at the Hub were also cancelled because of the exceptionally poor weather.

Weather Synopsis:

> Early morning frozen precipitation of all varieties began left an icy coating on cars and roads (and runways!). The day was overcast with a short period of snow in the afternoon. Temperatures hovered near 30deg.F with light northerly winds. Icing was reported by commercial air traffic at levels up to 20K'. Skies become broken during the evening but a new surge of cold air brought more low level cloudiness. A very dreary day!

Synoptic Situation:

> In the morning, Oklahoma and eastern Kansas were under a well-developed baroclinic leaf system associated with a strong short wave. This system moved eastward into Missouri by midday but left behind a shield of low and middle level clouds and precipitation. An extensive area of overrunning precipitation also extended eastward across the middle Mississippi and Tennessee Valleys to the Appalacian Mountains in association with this and the previous system. The mid-continent long wave trough appears to moving to our east as a result and the long wave ridge off the West Coast showed signs of moving onto the coast.

Aircraft	Depart	Land	Notes
All Aircraft			No flights

Satellite	Hub Overpass Time	Zenith Angle	Azimuth Angle	RAOB
NOAA-11	21:43:00	57.74	262.73	yes
	10:07:24	26.18	286.36	yes
NOAA-12	14:38:30	25.55	285.53	yes
	01:58:23	42.38	260.64	yes

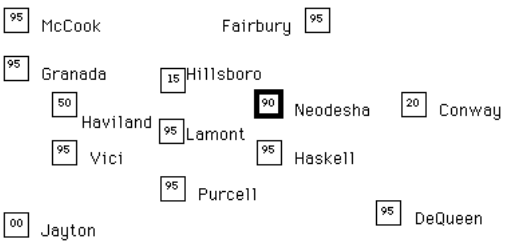
Rawinsonde Operations:

- Inner NWS stations (Type A): Enhanced @ 12, 18, and 00 UTC
- Outer NWS stations (Type B): Routine @ 12 and 00 UTC
- Hub CLASS station: Enhanced @ 18 and 00 UTC (lost 12 UTC)
  - and satellite overpasses @ 14, 22, 02 and 10
- Remote CLASS stations: Enhanced @ 12, 18, and 00 UTC
- Hub GSFC/WFF station: No launches
- CSU Parsons station: No launches

FIRE Profiler Status:

- CSU 405 MHz @ Parsons: Operation from 12 to 14 UTC
- PSU 50 MHz @ Coffeyville: Continuous operation
- NOAA 405 MHz @ Coffeyville: Not operational

NWS Wind Profiler Status:



SPECTRE Operations:

No operations due to poor weather and frozen equipment.

No FIRE Highlights

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Instrument Logs

Active Sensors

Active Sensor	UTC Hour																								Notes
	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11	
Utah Lidar H																									NO OBSERVATIONS
LaRC Laser Ceilometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Wisc HSR Lidar H																									NO OBSERVATIONS
Wisc Vol Image Lidar																									NO OBSERVATIONS
GSFC RAMAN Lidar H																									NO OBSERVATIONS
NOAA CO2 Lidar H																									NO OBSERVATIONS
NOAA Radar H																									NOT OPERATIONAL
PSU Radar H					X	X	X																		
PSU Laser Ceilometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU 50 MHZ Wind Prof H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU/NOAA 50 MHz RASS H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA 405 MHz RASS H																									NOT OPERATIONAL
LaRC Lidar P																									NO OBSERVATIONS
CSU Wind Prof/RASS P	X	X	X																						NO RASS
CSU Laser Ceilometer P																									NO OBSERVATIONS

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Passive Sensors

Passive Sensor	UTC Hour																								Notes
	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11	
NOAA μ-wave Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Sun Photometer H																									NO OBSERVATIONS
NOAA H20 Photometer	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA IR Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Dobson Ozone H																									NO OBSERVATIONS
NOAA Surface Ozone H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Trace Gas H																									NO OBSERVATIONS
PSU μ-wave Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ICE PROBLEMS
PSU Sun Photometer H																									NO OBSERVATIONS
PSU Solar Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ICE PROBLEMS
PSU IR Flux Radiometers H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ICE PROBLEMS
PSU Sky Video H																									NO OBSERVATIONS
Utah IR-Window Radiom. H																									NO OBSERVATIONS
Utah Sky Video H																									NO OBSERVATIONS
LaRC Video H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
AFGL Sky Imager H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Ames Radiometer H																									NO OBSERVATIONS
Denver Solar Radiom. H																									NO OBSERVATIONS
Denver IR-Spectrometers H																									NO OBSERVATIONS
GSFC IR-Spectrometer H																									NO OBSERVATIONS
Wisc. IR-Spectrometer H																									NO OBSERVATIONS
MRI Sun Photometer H																									NO OBSERVATIONS
MRI IR Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
MRI Spectro-Radiom. H																									NO OBSERVATIONS
MRI Solar Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GSFC Sun Photometer H																									NO OBSERVATIONS
CSU Sun Photometer P																									NO OBSERVATIONS
CSU IR-Window Radiom. P																									NO OBSERVATIONS
CSU Solar Flux Radiom. P																									NO OBSERVATIONS
CSU IR Flux Radiometers P																									NO OBSERVATIONS
CSU IR-Spectrometer P																									NO OBSERVATIONS

CSU Sky Video P																							NO OBSERVATIONS
Ames Spectroradiometer H																							NO OBSERVATIONS
Ames 10 μm narrow fov H																							NO OBSERVATIONS
CISRO/WPL/PSU IR W. Rad					X	X	X																

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Sonde and Surface Meterology

Sonde + Sfc Met Sensor	UTC Hour																							Notes
	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11	
NOAA Ozone Sonde H																									NO LAUNCHES
WFF Sonde H																									NO LAUNCHES
NCAR Cloud Ice Sonde H																									NO LAUNCHES
NCAR/CLASS Sonde H			X				X				X		X		X								X		12 UTC MISSING, SOME WINDS MISSING
NCAR PAMS H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				BATTERY PROBLEMS
NCAR/CLASS (remote)	X						X						X												SOME WIND DATA LOSS
NCAR PAMS (remote)								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	ONLY IOLA OPERATED DURING THIS PERIOD, ALL OTHERS DOWN
CSU Sonde P																									NO LAUNCHES
CSU Sfc Meteor. P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Type A NWS Sondes	X						X						X												
Type B NWS Sondes	X												X												
PSU Sfc Meteor H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	